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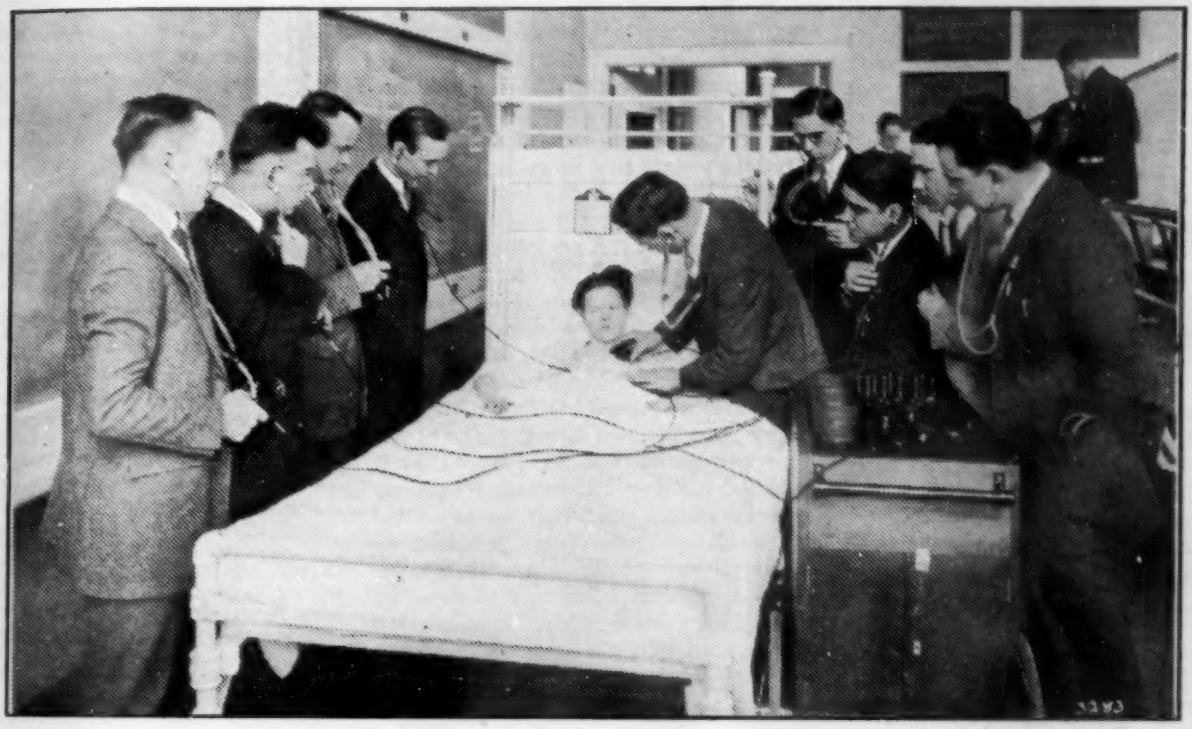
MEDICAL SCIENCE

Medical Science Declares War on Heart Disease



MECHANICAL DEVICES PLAY AN IMPORTANT PART in the early detection of leaky valves in the body's pump. The electrical stethoscope perfected in the laboratories of the Bell Telephone Company magnifies the noises of the chest so that hundreds of people can hear the sound of a single heart beat

By MARJORIE MACDILL

Science, medicine, and welfare organizations have declared war on heart disease, the greatest single cause of death in the United States.

From 10 to 15 per cent. of the total deaths from all causes in this country come from some form of heart disease. In some guise or other it interferes with the efficiency of close to 2,500,000 American citizens today. Since one-half of the patients with chronic heart disease are of an age when their earning capacity should be at its highest and when family responsibility is likely to be heaviest, statisticians estimate that the economic losses to the country from heart disease run well into the billions.

Tuberculosis, which a generation back held the doubtful honor of standing at the top of the country's death list, has dropped to fifth place and in some sections to sixth and seventh. As a result of the combined onslaught of social forces, cities, states, research institutions and the nation itself, the White Plague is giving way. Even the most conservative physicians foresee tuberculosis deaths as a negligible mortality factor in fifty years. Today the medical profession admits that it stands in almost the same place with respect to heart disease that it did with regard to tuberculosis some twenty-five or thirty years ago.

Because heart disease drags on for years in an unspectacular way and takes off many old people who may or may not have died of old age, the significance of the soaring heart disease rate has not bitten into public consciousness. The scientific world has known, as the bulky thickness of the pages in the *index medicus* listed under "heart" testifies, but the world in general has not yet been roused to the menace that heart disease presents.

Heart Associations

In 1915 a little group of physicians in New York City, among whom were Dr. Haven Emerson, now professor of public health at Columbia University, Dr. Lewis A. Conner, Dr. Robert Halsey and Dr. Stuart Hart, undertook to build up a program for the prevention of heart disease. The war interfered, as it did with so many

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Heart Disease

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things, but the need was so urgent that by 1919 the New York Heart Association had a well-established start. Philadelphia, Boston, Chicago and other cities followed suit, until in 1924 the American Heart Association was incorporated, as a headquarters for the ramifications of the heart disease prevention movement all over this country and Canada.

The objects of the Association are briefly to distribute information about heart disease, to stimulate research, to establish clinics where the malady can be detected in the early stages and where cardiacs can be kept under supervision, and to encourage the opening of convalescent homes where those with overworked hearts have the opportunity to rest and gain strength to go on. Some 140 clinics of this sort have now been established in the United States and Canada, where cardiac patients can receive treatment and learn how to prolong their existence with the handicap of a damaged heart.

Rheumatism Chief Cause

Heart disease may come from any one of a number of causes. Organic heart disease means some structural defect that may hamper its work very greatly or very little. Some are defective from birth but by far the most have been injured by various sorts of disease, mainly rheumatism and syphilis, though influenza, scarlet fever, diphtheria, and pneumonia also claim their share.

Victims Become Self-Supporting

Of all the serious and potentially fatal maladies, heart disease lasts the longest, with the possible exception of some of the disorders of the mind, and brings in its wake the longest chronic handicap on self-support. Through the efforts of the heart associations at rehabilitation through occupational therapy, hundreds of men and women are gainfully employed who in years past would have been permitted to flounder about in a state of disability, dependent either on relatives or charitable institutions.

By means of the cardiac clinic the old couple, who would have been separated years ago in some home for the aged or infirm, can keep working and go down through their declining years together. The years of the housewife who is a cardiac are prolonged, so that she does not leave a family of motherless little children. The porter with heart disease and a wife and two children to support is found a job requiring no lifting of heavy weights. Twenty dollars per year per patient is the cost of such medical, nursing and social service in a large clinic, according to estimates of the New York Heart Association. Through organizations of this type, cardiac patients, better and happier than if they were completely idle, are helped into jobs they can fill as effectively as workers without handicaps.

Digitalis Great Boon

Digitalis is one of the great boons of the cardiac patient who has to keep on earning his living. Certain types of heart disease require daily medication with this drug. By its means the heart is slowed down so that its ability to work is increased if the proper amount is given. Too much results in serious consequences, so that the patient must be taught to understand the dosage and to recognize the symptoms of an excess. Consequently, the necessity of supervision and education is very apparent. Periodic reports at the clinic are required while the patient is using the drug. The use of digitalis has increased greatly in the last ten years and occupies an important place among the forces at work to turn incapacitated cardiacs into self-supporting citizens.

Hearts and Tonsils

Since heart disease actively threatens people in the middle years its incidence among children has not in the

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CHEMISTRY

New Drugs From Glands

The repertory of the physician is to be enriched by two new extremely potent extracts obtained in purified form from a single gland by Dr. Oliver Kamm and associates working in the research laboratories of Parke Davis and Company at Detroit. These are the active principles or hormones of the back part of the pituitary body, a gland the size of a pea, lying at the base of the brain. It has been surmised for several years that the secretions from this gland produced two different effects when injected into the body. One is to cause a rapid rise in blood pressure and a constriction of the arteries. The other is to excite a violent contraction of the muscles of the uterus. This second effect is so pronounced that even an impure extract of the gland would produce a perceptible contraction in a solution diluted by several million parts of water. These two active components of the pituitary are now available in a practically pure form and this gives the physician two rifles instead of a shotgun to hit the mark at which he aims. The former will appear in the drug store under the name of vasopressin and is expected to give relief in cases of bronchial asthma. The second principle is to be called oxytocin.

Science News-Letter, October 22, 1927

Pharaohs of the pyramid building age in Egypt never saw a horse.

The Sahara Desert once had plenty of rain and was covered by dense jungles.

GLADYS HENRY DICK

MEDICINE

Scarlet Fever Conquerors

Portraits of Dr. and Mrs. Dick at bottom of page.

Five years ago the story of scarlet fever was practically unknown. Today the mechanism of its cause, immunity, diagnosis and therapeutic control are almost as completely understood as diphtheria. The credit for unraveling its bacteriological history and putting it on the high road to becoming a preventable disease is due as much to the Doctors Dick as to any other persons living.

In 1923 they first announced, after many years of research, the production of experimental scarlet fever in volunteers by inoculating them with cultures of hemolytic streptococci of scarlatinal origin. They found that these streptococci when grown in media produced a toxin much as diphtheria bacilli do. By using a carefully determined strength of this toxin and injecting it under the skin they could determine which individuals were susceptible to the toxin and which were not.

This is the well-known Dick test now widely used to determine susceptibility or immunity to scarlet fever. They also found that this toxin could be used in gradually increasing doses to make susceptible individuals immune. A curative antitoxin developed by the Dicks themselves and other workers has done much to allay the fear with which this disease used to be regarded.

George Frederick Dick, the male member of this medical matrimonial partnership, was born at Fort Wayne, Indiana, July 21, 1881. He received his early medical training at Rush Medical College and the University of Indiana. After a year and a half as surgeon in the iron mines of Minnesota and a year of study at Vienna he began research at the John McCormick Institute for Infectious Diseases at Chicago with which he has been connected ever since.

Gladys Rowena Henry was born in Pawnee City, Nebraska, December 18, 1881. She graduated from the University of Nebraska at the early age of eighteen and after an interval of graduate work followed by teaching in high school, entered the Johns Hopkins Medical School. After leaving the Hopkins she spent a year in Europe and came to the University of Chicago in 1911. Here she met Dr. Dick to whom she was married in 1914. She started work with her husband this same year at the John McCormick Institute.

Science News-Letter, October 22, 1927

CHEMISTRY

Atomic Hydrogen Blondes?

The lightest of the elements in its simplest form proves to be one of the most active agencies in the decoloration of dyes. Prof. E. Emmet Reid and associates at Johns Hopkins reported recently some interesting experiments on an unfamiliar form of hydrogen. This gas ordinarily consists of atoms connected two by two, but the coupling between these pairs may be momentarily broken by a strong electric current, for it takes the lonely atom some time to catch up another mate. During this period of isolation the unsatisfied hydrogen atom is in a peculiarly eager state and will seize with avidity upon almost any element it encounters. It is found possible to produce a stream of such atomic hydrogen nine inches long. When this sweeps over a surface coated with some coaltar dye the color, whatever it may be, is promptly reduced to white. It has long been known that hydrogen freshly released from its compounds was in an extremely energetic condition, called the nascent or new born state, and now the same effects can be produced on a commercial scale by means of atomic hydrogen. A blowpipe burning a stream of hydrogen atoms has recently been invented for welding metals, since it gives a higher heat than any other kind of combustion.

Science News-Letter, October 22, 1927

The United States takes 90 per cent. of the jutelong, used in chewing gum and electric cables, from the jungles of the East Indies.

GEORGE FREDERICK DICK

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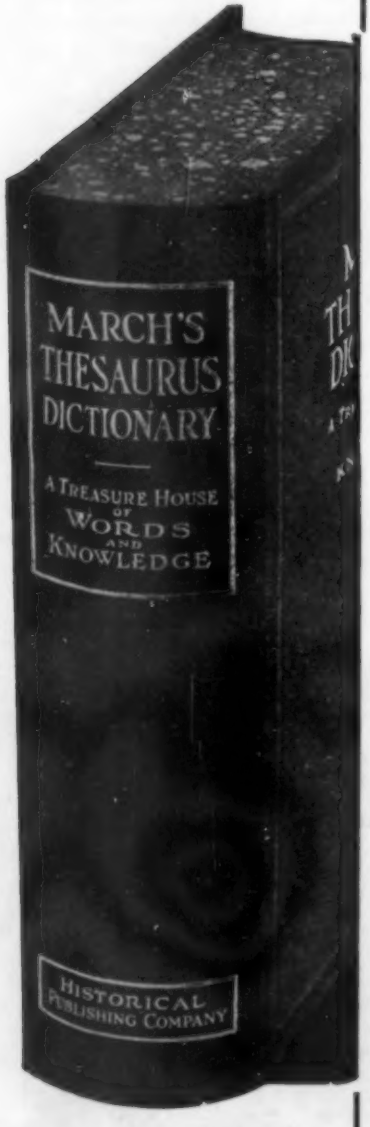

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Say you saw it advertised in the SCIENCE NEWS-LETTER

National Academy Discusses Plants, Stars, Evolution

Following are reported some of the interesting papers presented at the Urbana, Ill., meeting of the National Academy of Sciences, October 18 to 20.

Leaves Reflect Light

Leaves are by no means 100 per cent. efficient in their work of making food with the aid of captured sunlight. In addition to giving off as lost heat a part of the energy they absorb, they also fail to absorb part of the light that falls on them, simply throwing it back by reflection. Researches on this reflection loss by leaves were reported before the meeting of the National Academy of Sciences by Prof. Charles A. Shull of the University of Chicago.

Different leaves reflected different proportions of the light that fell upon them, Prof. Shull found, and the same leaf reflected light of different colors in different percentages. Thus, the upper surface of a silver poplar leaf reflected 7.5 per cent. of one of the violet hues, and 20 per cent., or nearly three times as much, in the yellow-green part of the spectrum.

The upper and lower surfaces of the same leaf have very different reflecting powers. The same silver poplar leaf, which is dark green above but shining white beneath, reflected 8.5 per cent of the deepest red rays from its upper surface, and 50 per cent. of the same rays from its underside.

Autumn coloring had a great influence on the reflecting power. The red leaves of the woodbine reflected nearly twice as much red light as they did of violet; but their total reflection was far less than that of the bright yellow birch leaves, which reflected over 40 per cent. of the incident light, as against only about 13 per cent. for the woodbine leaves.

Cells Build Into Animals

The medieval wonder tale of St. Nicholas putting together and bringing to life three children who had been chopped to bits by savage pagans has been realized, somewhat farther down in the scale of organisms, by Dr. Charles M. Child of the University of Chicago. He told how he did the trick with one of the lower marine animals at the Scripps Institution at La Jolla, Calif.

The animal belongs to a genus known as Corymorpha, whose nearest familiar relatives are the sponges; though it is quite small and externally at least looks very little like a sponge. Dr. Child ground a number of these up in a mortar with sand, until they were reduced to a formless pulp. Then he strained their remains through a piece of fine bolting silk, 150 meshes to the inch. What came through consisted of cells, still alive but separated from all their former connections or at most bunched in very small groups. A higher animal in this state would be simply hopelessly dead.

Not so the Corymorpha cells, however. They proceeded to get in touch with their neighbors, and wherever cell touched cell they stuck together, forming masses which rounded up into spheres. If the sphere were more than a twelfth of an inch in diameter it died; apparently size and efficiency are not concomitant in this part of the animal world. The smaller spheres not only lived but gradually developed into complete and healthy animals, even though they were assembled out of bits of a dozen or more originally separate individuals.

Prairies Becoming Forests?

What is the destiny of prairies? What would have become of the great stretches of rolling grassland that began in mid-Illinois and stretched across Iowa and Minnesota and into Nebraska and Kansas, if they had not been plowed into corn and wheat fields?

These questions, which have been much discussed by botanists and have considerable practical significance in agriculture and forestry, were answered by Prof. H. C. Cowles, head of the department of botany at the University of Chicago.

Prairies are of two types, Prof. Cowles stated. The first, usually found as interruptions in otherwise forested areas, are due to peculiar conditions of soil water, soil chemistry or other soil conditions where they occur, and are known as "edaphic" prairies. The second type are typified by the unbroken stretches of grassland in the west, and their existence is determined by general climatic conditions, regardless of local differences in the soil.

The first type of prairie, Prof. Cowles believes, is not a permanent thing. The trees that surround it modify soil conditions along its border until they are able to creep over it and conquer it for the forest. "Tension line" prairies also, that occupy an intermediate position between the first and second prairie types, will in the end become forest if left to themselves. Only the last type, which lies in regions where the rainfall is too scant for permanent forest or where other general climatic conditions are unfavorable for tree growth, will remain permanently prairie.

Tuberculin is Protein

The riddle of the chemical nature of tuberculin, the substance used for detecting tuberculosis in cattle, is a step nearer solution through researches reported by Dr. Florence B. Seibert of the University of Chicago.

There has always been a question, Dr. Seibert stated, whether the specifically potent factor is a protein or merely an infinitesimal amount of some very highly active substance attached to the protein. The difficulty in solving problems such as this has been due to the fact that the purification of proteins is one of the most difficult of all tasks in chemistry. In her laboratory, however, efforts to obtain a purified product have succeeded in producing an active protein in crystalline form. One of the surest tests of chemical purity is obtained when crystals come out of a solution; mixed materials do not crystallize.

"The crystalline protein is purer and therefore more potent than the original water soluble fraction of tuberculin from which it is made," Dr. Seibert said. "One tenth of a milligram of the original fraction is required to produce a maximum skin reaction in tuberculous guinea pigs, whereas, of the protein obtained from it and recrystallized ten times, as little as four one-hundredths of a milligram sufficed to give an equally strong reaction."

Sixty Years Show Evolution

Evolution under actual field conditions, producing distinctly recognizable animal varieties in less than a man's lifetime, was described by Dr. Frank C. Baker, curator of the museum of natural history of the University of Illinois.

The changes described by Dr. Baker took place in an artificial lake created by a dam in Wisconsin. Previous to its construction, the area had been occupied by a number of creeks and small rivers, in which

(Just turn the page)

National Academy

(*Continued from page 261*)

lived several species of molluscs or shell-fish. These were of species very definitely characteristic of a running-water habitat. As their condition of life changed from river to lake, part of them became extinct, part of them betook themselves higher up the water courses, and part stuck it out where they were.

The ones that migrated upstream remained in much the same kind of environment as they had always been used to, and their descendants today are exactly like the ancestors of sixty years ago. The ones that held on in the old home, while it changed from river to lake, have themselves changed most markedly. In general, their outline has become relatively shorter and thicker, and the shells of the snails have developed wider and looser coils. Dr. Baker points out the case as a clear-cut illustration of animals changing into new varieties under the influence of new environmental conditions.

Serum for Sleeping Sickness

A serum partially successful in destroying trypanosomes, organisms of the group that cause the terrible African sleeping sickness, was described by Prof. William H. Taliafero of the University of Chicago.

The organism experimented upon was not the same species that causes the human disease, but is related to it. Injected into a mouse, it will cause the animal's death in five or six days. The same organism does not always kill larger animals, though it makes them sick. If a serum made from the blood of one of these larger animals after its recovery is injected into the sick mouse, the mouse does not die on time. Instead, it apparently recovers, and none of the parasites can be found in samples of its blood.

The serum, however, has not yet been developed to a point where it works a permanent cure. After a period of respite, trypanosmes which have survived the attack of the serum begin to multiply again, and this time the mouse dies.

Dr. Taliafero has found that the effectiveness of a given dose of the serum is related to the number of parasites present in the blood. In slight infections, all doses including and above the minimum dose are effective. In severe infections, no dose of immune serum has been found to be effective. In infections between these degrees, doses of the serum greater than the minimum effective dose, instead of always acting to destroy the parasites, show recurrent zones of effectiveness and non-effectiveness. For this phenomenon no wholly satisfactory explanation has yet been offered.

Spots on Stars?

Red stars, like Betelgeuse, the northernmost of the familiar group of Orion, which will soon appear in the east as a conspicuous feature of the winter evening skies, are probably spotted like the sun. This is the opinion of Dr. Joel Stebbins, director of the Washburn Observatory of the University of Wisconsin.

In collaboration with Dr. C. M. Huffer, Dr. Stebbins has made tests of the light of different classes of stars by studying typical samples of each. The white and yellow stars, he says, appear to be fairly constant but about a third of the red stars, including all of the biggest ones, vary in light. Some change as much as twenty per cent. in a few weeks. As an explanation of this he thinks it probable that these are covered with spots, and that as they rotate, a greater or less area of luminous surface is exposed to the earth.

"Atoms" of Light Divided

The "quantum," the "atom" of which modern physicists suppose that light and other radiations consist, may be divided. This is indicated by experiments of Dr. A. J. Dempster, of the University of Chicago.

In the experiments he obtained light from a single vibrating atom, instead of many, as in the ordinary light source. But though the light is supposed to consist of single quanta, it behaved just as does ordinary light. When allowed to fall the light was reflected, and part passed through. When this was recombined the same patterns of light and dark bands were produced as would come from ordinary light.

Earth's Heat from Elements

The heat of the earth as used in mountain building, the melting of rocks into lava and that which is radiated into space, may come from the evolution or transmutation of one element into another. This is the suggestion of Dr. W. V. Howard, of the University of Illinois.

Dr. Howard's studies have been concerned with the odd-numbered elements, that is, the elements that have odd numbers when arranged in the orders of their weights, beginning with hydrogen, the lightest, as number one. This number of an element is called its atomic number. Many elements consist of mixtures of what the chemist calls isotopes. The isotopes of a given element are all the same element but their atoms have slightly different weights. Dr. Howard has worked out a series of rules by which the isotopes of elements that have not yet been successfully divided may be predicted.

These relationships together with his experimental results lead Dr. Howard to think that the odd numbered elements may have actually been formed from the lightest isotopes of the even numbered elements. According to modern ideas of the structures of the atoms of matter, this could be accomplished by the loss from the first element of a proton to form an atom of hydrogen, while the atom remaining would be that of an odd-numbered element.

As the process would be accompanied by the liberation of heat, Dr. Howard thinks that this is sufficient to account for much of the earth's heat.

Science News-Letter, October 22, 1927

To fight skyscraper fires, the New York Fire Department has a $14,500 engine which can pump a stream of water to the height of the Woolworth Building.

Fiber from the kapok tree of the tropics is said to be 20 per cent. more buoyant than cork and is gaining importance as a filler for life preservers.

A Swedish company is to assist the Soviet government to build a lime-nitrogen factory at Nijni Novgorod, with an initial capacity of 30,000 tons a year.

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PSYCHOLOGY

Leading Psychologists Discuss Emotions

What is an emotion? How does it work? This is the problem that some of the world's leading psychologists discussed, in person and by proxy, at Wittenberg College, October 19 to 22.

William James Was Right

We do not run away from a bear because we are afraid; we are afraid because we run. This theory, which caused a sensation in scientific circles when the psychologist William James advanced it some 40 years ago, and which has since become old-fashioned, was dusted off and brought out with improvements by Prof. E. Claparede, of the University of Geneva.

It is not the sight of the bear but the process of getting ready to run that warns us that we are in danger, Professor Claparede maintains. The feeling of danger is useful because it urges the man to seek safety. If he can run fast enough, he proceeds to escape without any emotion at all. But if he lacks faith in his legs, his body is thrown into a state of excitement as he tries to run and he is made conscious that he is gripped by fear.

"Feelings are useful in our conduct, while the emotions serve no purpose," Professor Claparede concludes. "The uselessness, or even the nuisance of the emotion is known to every one. Here is an individual who would cross the street. If he is afraid of automobiles, he loses his composure and is run over. Sorrow, joy, anger, by enfeebling attention or judgment, often make us commit regrettable acts. In brief, the individual in the grip of an emotion loses his head."

The Emotions of a Crab

A crab fettered by one claw and left with food just out of reach will resignedly starve to death. But put a polyp, the crab's most deadly enemy, nearby, and the prisoner crab will be convulsed with fear. Excitement racing through its nerves will send a violent shock to the tied claw and the claw will come off, so that the crab can scuttle off to safety.

This example of how emotions bring about intense unusual activity in animals was described in a paper sent by Prof. Henri Pieron, of the University of Paris.

From the amoeba, one of the simplest, tiniest forms of animal life, up to man, action is always guided by feelings, the French psychologist said. Even purely mental action in man, which we call thought, is regulated by his state of feeling. If the feelings become sufficiently intense so that there is an abnormal discharge of nervous energy, the emotional stage is reached.

In emergencies, this nervous energy gives the animal or man greater power to fight or flee. But the after effect is nervous exhaustion, and temporary disorganization of the body machinery, Professor Pieron said.

In a man, if he is highly emotional and if he is not well balanced, the emergency reserve of energy may be a source of real danger, he concluded, "like large ponds, established along a water course, which accumulate the available energy and may cause disastrous inundations if the barriers begin to give way before a sudden onslaught."

In the animal world as among men, emotions sometimes lead to useless outbursts of activity, he declared, saying: "An ant, coming upon a spot of soil near its nest which has been saturated with the odor of foreign ants, sometimes begins to strike the ground violently with its mandibles, instead of being content to flee or to explore carefully the neighborhood of the suspicious place."

Superiority Human Goal

The most important single factor in individual psychology is a feeling of inferiority, according to Dr. Alfred Adler, noted Viennese psychoanalyst, one time pupil of Sigmund Freud.

From the time of the child's first social contacts, with his mother, his aim through life is to overcome difficulties of life and to gain superiority, said Dr. Adler. The mother must try to give the little child freedom to develop his superiority through independence, self-confidence, and courage. Later, she must spread the interest of the child to other persons and situations, so that he feels at home in the world.

Three types of young children have difficulty in attaining the goal of normal superiority toward which every human being strives, he said:

"First, children with imperfect organs; they need more time and more effort than others to integrate. Second, spoiled children. They are not free to function alone, and develop in the direction of always wishing to be supported. They are attacked on all sides because of this behavior, and feel in a hostile environment and therefore under strain. Third, hated children—illegitimate, not wanted, ugly, crippled. They have the same

(*Just turn the page*)

PHYSIOLOGY

Gland Extract Helps Eyes

Epinephrin, the drug that is extracted from the suprarenal glands, may be a remedy for near-sightedness. Dr. Meyer Wiener of St. Louis has tried out minute quantities of the powerful drug on patients with progressive myopia, and in a preliminary report of his results to the American Medical Association states his belief in its value in correcting this derangement of vision.

Medical opinion as to the cause of myopia is divided. It is thought to be hereditary within certain limits. Application to close work has also long been blamed as a cause of the failure of the eyes in its progressive phase. Most physicians agree that the stretching of the outer layer of the eyeball is an important factor, but just how this comes about is still a mystery.

Exercise and diet, it is generally agreed, help as much as anything. The ranch life of Theodore Roosevelt is a classic example of what fresh air and out-of-door work will do to help bad eyes as well as the physique generally. It has been proved that exercise increases the epinephrin output of the suprarenal glands, and it is to this factor that Dr. Wiener attributes the improvement that short-sighted people gain from physical exertion.

"It is shown," he stated, "that both exercise and diet influence the secretion of the suprarenals, and that the local application of suprarenal secretion increases tissue metabolism. It is quite possible that the cramped position often assumed in reading and close application of the eyes might have a deterrent effect on the secretion of the suprarenals."

Acting on this theory, Dr. Wiener began the practice of instilling small amounts of epinephrin into the eyes of patients with progressive myopia. He recommended at the same time exercise and fresh air, but restricted reading only to the extent that it must not interfere with the daily exercise. His cases following this procedure have shown such encouraging results that further reports are awaited by medical circles with considerable interest.

Science News-Letter, October 22, 1927

Pulling contests between draft horses, using a piece of apparatus which measures the exact pulling power of a team, are a recent attraction at country fairs.

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SCIENCE SERVICE
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Emotions

(*Continued from page 263*)

difficulties as the second type, but are without the aid of a supporting person."

Useless, anti-social activities of problem children, neurotics, criminals, suicides, sexual perverts, and prostitutes are caused by a lack in social feeling, courage and self-confidence, Dr. Adler concluded.

First Love Semi-Serious

The boy of fourteen who falls in love and goes through an intense experience of adoration for some distant and never-to-be-won maiden is a familiar but much misunderstood figure. Why his first love affair can be so intense and yet play so slight a part in the sum total of his experiences was explained before the psychologists.

The play spirit in an individual's make-up is contrasted from the serious side in that really playful activities have no consequences in his life, it was declared in a paper sent to the meeting by Prof. Welhelm Stern, of the University of Hamburg, famous German specialist in child psychology. The fact that the boy's love affair does not go further than adoration from a distance, and that he clings to ideal romance by not permitting himself to make advances to the object of his affections shows that the feeling is not very firmly rooted in the young person, Professor Stern showed. The experience is only semi-serious, and may dwindle away after a brief time as though it never existed.

Play belongs to the upper, lighter layers of an individual's personality, the psychologist finds. Between utterly superficial play activities and deeply serious vital activities, there are many grades of semi-seriousness.

"To be always serious would reduce a man to the lifelessness of a lofty monument," he said.

When a man "never grows up" in the sense that he continues to let the play spirit dominate his behavior, and acts without due consideration for the future or without accepting responsibility, he becomes the Don Quixote or Peer Gynt type.

In normal life, the finest example of the semi-serious type of life is the great humor, in which the individual is never so absorbed by fixed determination and the importance of his affairs that he cannot turn upon them playfully and snap his fingers at them, the psychologist declared.

Say you saw it advertised in the SCIENCE NEWS-LETTER

NATURE RAMBLINGS

By FRANK THONE

Jimson Weed

Fall pastures become more and more empty and brown, but a few plants still hold the field against the advancing frost. As might be expected, the weeds are the ones that survive most lustily. And among these vegetable hoboes there is none more bold and tough, and in a defiant way more handsome, than the jimson-weed. A prolific blossomer, there will still be flowers on it until a heavy freeze stops all vegetation for the season, but mostly it has finished with this work, and can be distinguished mainly by its heavy crop of round or ovoid, thick-shelled, spiky pods that are even now cracking crosswise and scattering their numerous seeds.

"Jimson-weed and its variant "jimpson-weed" are corruptions of "Jamestown-weed." Why the first permanent English settlement in this country should have been given this honor is not clear; but inasmuch as most of the weedy members of his genus are of tropical origin it seems likely that some slaving ship from Africa dumped seed-bearing ballast on the shores of the James River, giving the ill weed its chance to grow apace in a new habitat.

Whatever may have been the origin of the plant, it certainly did not stop long within the limits of its namesake city. It is now found all over the country, growing in impudent immunity in all grasslands and pastures; for it is so nasty to smell, and so bitter to taste, and so wickedly poisonous withal, that not even a hog will eat it.

Its poisonous qualities, however, must be reckoned, paradoxically enough, among the weed's few virtues. Poultices made of its pounded leaves have long been used for the allaying of inflamed bruises, and they are not a mere faith-founded folk-remedy, either; they really work. But the demand for poultices, after all, is not large, and the supply of jimson-weed far exceeds it.

Calls Milk American Beverage

On this page we report some of the papers which were presented during the meeting of the American Public Health Association in Cincinnati.

The tremendous increase in America's milk consumption has resulted in heavy responsibility for those who produce, handle and supervise our milk supplies, C. A. Holmquist of the New York state department of health declared.

Mr. Holmquist attributes the status of milk as almost a national beverage to four reasons: first, the education of people to the value of milk as a food; second, the serving of milk free or at cost in large industrial plants; third, the advocating of milk by health and milk producers' organizations; fourth, the improvement in quality of both raw and pasteurized milk.

The cleanliness or uncleanliness of the bottles that milk comes in constitutes a big public health issue as well, according to Ralph E. Erwin of the Pennsylvania state department of health, speaking in the same section. Manufacturers have taken the hint, Mr. Erwin declared, and have made rapid strides in the last five years in perfecting bottle washing machinery. Many states have laws demanding the careful cleaning of all bottles, added the expert.

War on Heart Disease

Heart disease that causes more deaths than any other malady in the United States held the attention recently of the delegates attending the 56th annual meeting of the American Public Health Association.

Dr. Henry Albert, commissioner of health of Iowa, declared that it is very difficult to determine whether the peak of heart disease mortality has been reached or not because it is produced by so many causes.

To Save Sight of Children

Saving children with defective vision from joining the 100,000 blind people in the United States today is a huge problem confronting school physicians and health workers. To achieve this object programs of sight conservation have been developed in schools, industries and homes, said Dr. B. Franklin Royer, medical director of the National Committee for the Prevention of Blindness.

Attempts are also being made to protect the sight of the pre-school child. By working with a child with poor eyesight at this period it is hoped that the child can enter school with a start equal to those of a child with perfect vision.

"The whole philosophy of sight-saving classes in school," Dr. Royer explained, "is that of minimizing eye use while supplying ideal conditions under which eye work may be undertaken. Intervals of use of the eye alternate with eye rest. The pupil maintains his classroom social contacts for oral recitation with a period of study and special recitation in the specially prepared room. Much instruction is given orally while certain children prepare their lessons with a reading helper. Many of the stardard books used are printed in clear 24-point type so that the child is not required to do too close work. Figures tell us that in England and in the large American cities from one in 500 to one in each thousand school children need sight-saving class supervision sometime during their school career."

Much of the blindness in this country can be traced to the prevalence of social diseases, a condition that experts believe can only be improved by better health education and clinical treatment.

"In our civilized country there are still 14 states and one territory that do not require the use of a prophylactic in the eyes of a new born child," said Dr. Royer, urging that all states write this requirement into their laws.

Whooping Cough Control

The death rate of whooping cough has declined less than that of any other children's disease during the past twenty years, Dr. Edward S. Godfrey of the New York state department of health told delegates.

Whooping cough is the least completely reported and its perhaps the most difficult to control of our epidemic diseases, Dr. Godfrey declared. Of the communicable diseases of childhood, it ranks next to diphtheria as a cause of deaths in New York state. Nearly 95 per cent. of the deaths from this cause occur during the first five years of a child's life.

Dr. Godfrey strongly urged more stringent control and careful treatment of all communicable disease with special reference to the age groups that different diseases attack most particularly. Measles claims most victims under one year of age, he stated. Since more children under five succumb to diphtheria, he recommended that immunization campaigns should be planned to reach the pre-school child.

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In order to aid in catching the items that concern you and to facilitate clipping and filing, a key word in small capitals has been printed on the right of the line above each article. The key words used fit into any system of classification, whether it be a straight alphabetical file, a system of your own devising, the Library of Congress classification or the Dewey system.

Note that you can clip out any article without fear of damaging another article in which you might be interested, since editorial matter printed on the right-hand pages is backed by advertising, standing matter or a continuation of the article on the other side.

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GB Physical geography.
GC Oceanology and oceanography.
GF Anthropogeography.
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GR Folklore.
GT Manners and customs.
GV Sports and amusements. Games.
HC Economic history and conditions. National production.
HD Economic history. Agriculture and Industries.
HE Transportation and communication.
HF Commerce.
HM Sociology. General.
HQ Family. Marriage. Woman.
HV Social pathology.
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M Music.
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P Philology and linguistics.
Q Science. General.
QA Mathematics.
QB Astronomy.
QC Physics.
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090 Book rarities
100 PHILOSOPHY—
110 Metaphysics
120 Special metaphysical topics
130 Mind and body
140 Philosophical systems
150 Mental faculties. Psychology
160 Logic
170 Ethics
180 Ancient philosophers
190 Modern philosopers
200 RELIGION—
210 Natural theology
220 Bible
230 Doctrinal. Dogmatics. Theology
240 Devotional. Practical
250 Homiletic. Pastoral. Parochial
260 Church. Institutions. Work
270 Religious history
280 Christian churches and sects
290 Ethnic. Non-Christian
300 SOCIOLOGY—
310 Statistics
320 Political science
330 Political economy
340 Law
350 Administration
360 Associations. Institutions
370 Education
380 Commerce. Communication
390 Customs. Costumes. Folklore
400 PHILOLOGY—
410 Comparative
420 English
430 German
440 French
450 Italian
460 Spanish
470 Latin
480 Greek
490 Minor Languages
500 NATURAL SCIENCE—
510 Mathematics
520 Astronomy
530 Physics
540 Chemistry
550 Geology
560 Paleontology
570 Biology
580 Botany
590 Zoology
600 USEFUL ARTS—
610 Medicine
620 Engineering
630 Agriculture
640 Domestic economy
650 Communication. Commerce
660 Chemical technology
670 Manufactures
680 Mechanic trades
690 Building
700 FINE ARTS—
710 Landscape gardening
720 Architecture
730 Sculpture
740 Drawing. Decoration. Design
750 Painting
760 Engraving
770 Photography
780 Music
790 Amusement
800 LITERATURE—
810 American
820 English
830 German
840 French
850 Italian
860 Spanish
870 Latin
880 Greek
890 Minor languages
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SCIENCE SERVICE
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THIS YOUNG MAN is learning how to get well at the convalescent home of the Philadelphia Heart Association

Heart Disease

(*Continued from page 258*)

past received a great deal of attention. Recent surveys, however, show that at least one per cent. of the children in the elementary grades have cardiac disorders. This means that some 200,000 of the children in the public schools need medical supervision if they are to live out their allotted span of life.

Up to the age of twenty rheumatism is a more frequent cause of heart disease than all the other causes combined, says Dr. Haven Emerson. It is only in the last decade, he explains, that the relationship of acute tonsilitis, St. Vitus's dance, acute rheumatic fever, and infections of the heart without rheumatic disease of the joints has been made sufficiently clear to convince physicians that we are dealing with one and the same infection expressing itself in widely separated parts of the body.

Watch for Growing Pains

Though a damaged heart cannot be transmitted from one person to another, it is now believed that rheumatic fever can be communicated, much as a sore throat "goes through the family." It has been claimed that it is due to a specific germ, but this has not as yet been confirmed. It is definitely known, however, that decayed teeth, diseased adenoids and tonsils, and sinus infections are ports of entry of rheumatism. Consequently it is obvious that cleaner mouths, fewer diseased tonsils, more frequent trips to the dentist, more careful attention to sore throats, are ways to cut down the inroads of heart disease among the younger generation. "Growing pains" that in days past were rather sniffed at by grownups as an excuse to get out of odd jobs arond the house, are now treated as a serious symptom worthy of medical attention.

The examination of 50,000 school children at Rochester, N. Y., recently reported to the American Medical Association by Dr. A. D. Kaiser, demonstrated that heart disease occurs much less frequently in children who have their tonsils removed than in those who have not. The investigation also showed that the child whose tonsils have been removed was far less likely to suc-

(*Just turn the page*)

Model Airplanes

This is the tenth in a series of articles on model airplane making by Paul Edward Garber, of the Smithsonian Institution.

Other Scientific Models

The two model airplanes which have been described in this series represent the elementary and advanced types of construction. Although the last one described embodies the latest improvements, it can be made to fly still better if it be made lighter. The utmost refinement of detail is necessary to improve the model. Before attempting to build a record breaking model, the constructor should weigh the one which he has just completed. Postal scales are usually used for this purpose as they can register small loads. You will probably find that your model weighs around four ounces. You may be surprised to learn that models of this same size can be made to weigh half as much. Naturally they will fly much farther. These final improvements were not included in former articles because it is the author's opinion that a model maker needs to construct several models before he gets the knack and finesse necessary for the finest work. A paragraph will be devoted to each part of the model and will explain what can be done to better it.

FRAME. The sizes of wood specified for the previous model frame very nearly approach the limit of lightness, but by careful trimming the longerons and braces might be made slightly smaller. In order to insure adequate strength at the rear of the model it would be a good idea to stretch a silk thread across between the propeller bearings.

WING. The ribs might be further lightened by cutting away more of the center. The ribs can be made of bamboo sticks curved to the shape of the upper and lower surfaces, and Ambroided in place. The bamboo could be as small as 1-32″x1-64″, and might require a few balsa strengtheners. The wing spar might be lightened by burning out sections between the ribs with a hot ice pick or piece of wire. The bamboo in the wing ends might be pared down.

ELEVATOR. The bamboo used for this part might be pared down somewhat.

POWER PLANT. The propellers have already been specified as very thin, but they might be lightened by cutting away part of the hub. On record breaking models which I have seen the hubs were as thin as ⅛″.

(*Just turn the page*)

Model Airplanes

(*Continued from page 267*)

The general lightening which has been advised will enable the model to be flown with less rubber. Five or six strands should suffice instead of the original eight. This eliminating saves a great deal of weight, as rubber is a great weight maker. Its reduction accomplishes a double purpose, it saves weight and also enables more turns to be stored in it, thus resulting in longer flights. By exercising ingenuity and care you may be able to equal or even surpass the present world records.

The two models described in this series are known as twin pushers, because they have two pushing propellers. In addition to this type, there are model airplanes of the tractor type which have their propellers in front, and modifications of the two types such as biplanes, hydroairplane models, models with landing gear for launching off the ground, models without power plants, known as gliders, etc. Descriptions of these types may be found in books on model flying, or in the model aeronautics department of magazines.

To prevent damage to your model while making it or when carrying the completed model back and forth from the flying field, you will find a model carrying box very handy. The construction of a suitable box will be given in the next article. One of the most interesting types of models is the scale model. These are made in direct imitation of the large prototypes, and are usually made to fly. Thinking that you will want to make one of these, we will follow the model box article with a series describing how to make a flying scale model of Lindbergh's famous aeroplane, "The Spirit of St. Louis."

Science News-Letter, October 22, 1927

After Boston's smallpox epidemic of 1752, out of a population of 15,684, only 174 persons were left in the city who had not had the disease.

Government tests show that molten metal placed in huge closed ladles for transportation between furnaces can be kept 40 hours before it becomes too cold to be poured.

Wild animals kept in captivity are apt to lose the natural color of their skin or fur, and even their figures become changed, so that they may no longer represent their normal state.

Heart Disease

(*Continued from page 267*)

cumb either to rheumatism or scarlet fever.

Children's Convalescent Homes

Convalescent homes for cardiac children are doing a big job of reclamation work. Here many times the young victims get their first lessons about how to take care of themselves, for it is essential, if the heart patient is to live, that he must learn to conserve his energy. Most of the homes now in operation are in the suburbs of large cities. Sunshine, fresh air and rest are the main essentials at first. Later come supervised play and school lessons, maintained in New York state by the public schools in every convalescent home with 25 or more children.

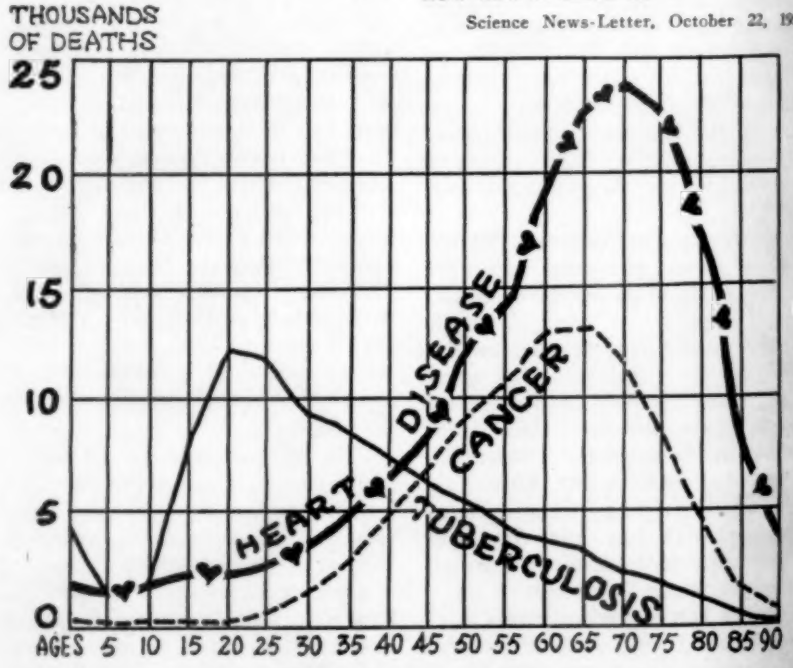
Some homes follow the custom of having each child wear a colored ribbon to denote how much activity he should be permitted to indulge in. Then the nurse or supervisor can see at a glance that none of the fellows are playing at games that will exceed their capacity. In time the child is allowed to go back to home and school and the clinic keeps track of him after he returns. Many children whose fathers and mothers have to work return from their sojourn in the convalescent home to their poverty-stricken environment capable of becoming better citizens than they might otherwise have been.

It is important that children with defective hearts should take up a trade or profession that will not tax the capacity of the overburdened heart. At the cardiac clinic the child's condition is fully diagnosed and written out on a blue card that is sent to the vocational section of the heart association. Here after further interviews with the child and his parents, plans for his education are laid. Millinery, dressmaking, novelty making, typing and stenography are suitable for girls, while the various sorts of skilled labor that do not call for extreme physical exertion are recommended for boys.

Since heart disease causes the greatest number of deaths and disabilities in the United States, and since it first appears in the child, it is with the children that the greatest concern of the physician and social worker must rest.

Diphtheria is a matter of days, tuberculosis of years, but heart disease may drag on for decades. Up to the age of 35 less than one person in a thousand dies of it, but from 45 onward the curve representing the rate of death from disorders of the heart shoots up faster than for any other disease known. By combining the research of laboratories with the findings of the clinics new developments will be made that will help the heart patient on his way. But the great panacea for this disease, the best heart authorities warn us, does not lie in specific drugs or vaccines, but in teaching the patient how to care for himself and in teaching others how not to have it.

Science News-Letter, October 22, 1927



ONE PERSON OUT OF EVERY FIVE who reaches the age of ten years is eventually stricken by heart disease. This chart based on the latest figures from the U. S. Census Bureau shows how disorders of the heart have surpassed tuberculosis and even cancer as a cause of death

Classics of Science: The Mountains of The Moon

THE MOON, a reproduction of Galileo's own drawings showing the craters on the lighted side.

The telescopes devised by Galileo were of the type now used as opera and field glasses. His largest instrument has a magnification of about 33 diameters. So powerful a glass, however, is not necessary to see the moon's craters as he describes them, and an ordinary field glass will do very well.

SIDEREUS NUNCIUS (THE SIDEREAL MESSENGER), by Galileo Galilei, Venice, 1610; Tr. by Edward Stafford Carlos, London, 1880.

Ruggedness of Surface

Let me speak first of the surface of the Moon, which is turned towards us. For the sake of being understood more easily, I distinguish two parts in it, which I call respectively the brighter and the darker. The brighter part seems to surround and pervade the whole hemisphere; but the darker part, like a sort of cloud, discolours the Moon's surface and makes it appear covered with spots. Now these spots, as they are somewhat dark and of considerable size, are plain to every one, and every age has seen them, wherefore I shall call them *great* or *ancient* spots, to distinguish them from other spots, smaller in size, but so thickly scattered that they sprinkle the whole surface of the Moon, but especially the brighter portion of it. These spots have never been observed by any one before me; and from my observations of them, often repeated, I have been led to that opinion which I have expressed, namely, that I feel sure that the surface of the Moon is not perfectly smooth, free from inequalities and exactly spherical, as a large school of philosophers considers with regard to the Moon and the other heavenly bodies, but that, on the contrary, it is full of inequalities, uneven, full of hollows and protuberances, just like the surface of the Earth itself, which is varied everywhere by lofty mountains and deep valleys.

Lunar Mountains and Valleys

The appearances from which we may gather these conclusions are of the following nature:—On the fourth or fifth day after new-moon, when the Moon presents itself to us with bright horns, the boundary which divides the part in shadow from the enlightened part does not extend continuously in an ellipse, as would happen in the case of a perfectly spherical body, but it is marked out by an irregular, uneven, and very wavy line, as represented in the figure given, for several bright excrescences, as they may be called, extend beyond the boundary of light and shadow into the dark part, and on the other hand pieces of shadow encroach upon the light:—nay, even a great quantity of small blackish spots, altogether separated from the dark part, sprinkle everywhere almost the whole space which is at the time flooded with the Sun's light, with the exception of that part alone which is occupied by the great and ancient spots. I have noticed that the small spots just mentioned have this common characteristic always and in every case, that they have the dark part towards the Sun's position, and on the side away from the Sun they have brighter boundaries, as if they were crowned with shining summits. Now we have an appearance quite similar on the Earth about sunrise, when we behold the valleys, not yet flooded with light, but the mountains surrounding them on the side opposite to the Sun already ablaze with the splendour of his beams; and just as the shadows in the hollows of the Earth diminish in size as the Sun rises higher, so also these spots on the Moon lose their blackness as the illuminated part grows larger and larger. Again, not only are the boundaries of light and shadow in the Moon seen to be uneven

(*Just turn the page*)

The House Un-beautiful

Quotation from ARTIFEX or The Future of Craftsmanship—John Gloag—Dutton.

In acquiring a multitude of superficial attainments we have allowed many of the faculties of our forefathers to lie dormant. True, we criticise and improve a number of things they ignored, sometimes disastrously, but we do not and quite often we cannot criticise our possessions as a seventeenth century householder would have criticised them. When town and country craftsmen made furniture by hand there was for its form an accepted character, a recognized idea of appropriate embellishment and a widespread knowledge of what the product of good workmanship should look like and feel like, and the attributes one should expect a piece to have after certain sums had rewarded the labor of the craftsman; in short, there was a real understanding of the meaning of quality in workmanship and material. How many of us possess that elementary critical faculty now? How many people can look at a piece of furniture made today and give a fair estimate of its worth from the point of view of workmanship? No, that sort of thing is left to the "experts" and what was everyday thinking in the life of England or the American colonies a couple of centuries ago is now regarded as a mystery, lit only by the lamp of expert knowledge. . . .

The atrophied critical faculty of the average man or woman is best demonstrated by their homes, by the host of ugly, useless, unfit and ill-made articles with which their rooms are crowded. These things are sold to them by advertisements that are not always framed in the spirit of commercial piety that produced the slogan of "Truth in Advertising." And it is the habit, three generations old, of relying on the views of others which makes the householder accept badly-constructed and ugly things.

Unless the great mass of people is taught to think, and consequently to criticise, technical education will be handicapped, for although it may improve craftsmanship, it cannot create the demand for well-made things that must sustain good craftsmanship.

Science News-Letter, October 22, 1927

A new hotel and office building in Cleveland is 555 feet high, the same height as the Washington Monument.

The formulae used by the Egyptians to color bronzes are still used by French, British and American mints, an electro-chemist declares.

News-Letter Features

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Mountains of Moon

(*Continued from page 269*)

and sinuous, but—and this produces still greater astonishment—there appear very many bright points within the darkened portion of the Moon, altogether divided and broken off from the illuminated tract, and separated from it by no inconsiderable interval, which, after a little while, gradually increase in size and brightness, and after an hour or two become joined on to the rest of the bright portion, now become somewhat larger; but in the meantime others, one here and another there, shooting up as if growing, are lighted up within the shaded portion, increase in size, and at last are linked on to the same luminous surface, now still more extended. An example of this is given in the same figure. Now, is it not the case on the Earth before sunrise, that while the level plain is still in shadow, the peaks of the most lofty mountains are illuminated by the Sun's rays? After a little while does not the light spread further, while the middle and larger parts of those mountains are becoming illuminated; and at length, when the Sun has risen, do not the illuminated parts of the plains and hills join together? The grandeur, however, of such prominences and depressions in the Moon seems to surpass both in magnitude and extent the ruggedness of the Earth's surface, as I shall hereafter show. And here I cannot refrain from mentioning what a remarkable spectacle I observed while the Moon was rapidly approaching her first quarter, a representation of which is given in the same illustration. A protuberance of the shadow, of great size, indented the illuminated part in the neighborhood of the lower cusp; and when I had observed this indentation longer, and had seen that it was dark throughout, at length, after about two hours, a bright peak began to arise a little below the middle of the depression; this by degrees increased, and presented a triangular shape, but was as yet quite detached and separated from the illuminated surface. Soon around it three other small points began to shine, until, when the Moon was just about to set, that triangular figure, having now extended and widened, began to be connected with the rest of the illuminated part, and, still girt with the three bright peaks already mentioned, suddenly burst into the indentation of shadow like a vast promontory of light.

At the ends of the upper and lower cusps also certain bright points, quite away from the rest of the bright part, began to rise out of the shadow, as is seen depicted in the same illustration.

In both horns also, but especially in the lower one, there was a great quantity of dark spots, of which those which are nearer the boundary of light and shadow appear larger and darker, but those which are more remote less dark and more indistinct. In all cases, however, just as I have mentioned before, the dark portion of the spot faces the position of the Sun's illumination, and a brighter edge surrounds the darkened spot on the side away from the Sun, and towards the region of the Moon in shadow. This part of the surface of the Moon, where it is marked with spots like a peacock's tail with its azure eyes, is rendered like those glass vases which, through being plunged while still hot from the kiln into cold water, acquire a crackled and wavy surface, from which circumstance they are commonly called *frosted glasses*.

GALILEO GALILEI was born at Pisa February 15, 1564, and died January 8, 1642, at Arcetri, near Florence. His brilliant mind began to show its unusual powers even in childhood, and at seventeen when he entered the University of Pisa to study medicine he was already more than an amateur in both music and painting. The observation of the swinging lamp in the Pisa Cathedral, and a lesson in geometry which he accidentally heard, in that year turned his talents to the study of pure science.

The telescope with which Galileo discovered the mountains of the moon here described, and many other new objects in the heavens, was devised by him after one night's study when he learned that similar instruments were being made in the Low Countries. He was forty years old at the time. The discoveries made with his telescopes led to his famous imbroglio with the fundamentalists of his day.

Science News-Letter, October 22, 1927

Of about 50 kinds of grapes in the world, over half are natives of North America.

Perfumes came to be so excessively used in ancient Rome that their use was finally restricted by law.

Study of 50,000 school children shows that heart disease occurred more frequently in children who had kept their tonsils than in those who had their tonsils out.

Out of 19,000 children in orphan asylums in nine states, only five per cent. were full orphans, 30 per cent. were half orphans, and 65 per cent. had both parents living.

First Glances at New Books

ADVENTURES IN READING—May Lamberton Becker — *Stokes* ($2). Mrs. Becker's long experience as "The Reader's Guide" of the Saturday Review of Literature, where she has to handle a pile of letters every day from readers who don't know what they want or can't find it, has given her an exceptional insight into the needs and tastes of all sorts and conditions of men and as many varieties of women. In this volume she shows the same sympathetic helpfulness for young people. She tells them how to find their way through the mazes of the public library and how to start a library of their own. She suggests books to be read when you are in the dumps, when you want adventure and fantasy, when you would like to read a play. Our opinion of the judiciousness of her selection is confirmed when we observe that in her list of science titles fourteen were written or edited by members of Science Service.

Science News-Letter, October 22, 1927

NORTH AMERICA—C. Matheson—*Oxford University Press.* A well-illustrated book intended for boys and girls over twelve. The treatment is on modern scientific lines—from the known to the unknown, from cause to effect. Though a geography, due emphasis is laid on the historical and human sides, and special attention is devoted to industrial and commercial conditions.

Science News-Letter, October 22, 1927

ROOT DEVELOPMENT OF VEGETABLE CROPS—J. E. Weaver and W. E. Bruner—*McGraw-Hill* ($4). A companion volume to the senior author's Root Development of Field Crops. It applies to a number of the more important vegetables the painstaking methods of root study developed in Professor Weaver's classic researches on the native plants of the western grasslands.

Science News-Letter, October 22, 1927

THE A B C OF HYDROGEN ION CONTROL—*LaMotte Chemical Products Co.* Combines a catalog of indicator sets with a complete manual of their use.

Science News-Letter, October 22, 1927

HYDROCHLORIC ACID AND SODIUM SULFATE—N. A. Laury—*Chemical Catalog Co.* ($4). Up-to-date information on the commercial chemistry of these two important products.

Science News-Letter, October 22, 1927

ARCHÆOLOGY

Pompeii Yields New Statue

By R. V. D. MAGOFFIN

Professor Magoffin is president of the Archæological Institute of America and head of the department of classics at New York University.

A marvelous bronze resurrection from the deadening ashes that covered the city of Pompeii has just been officially announced by Professor A. Maiuri. Unearthing this statue in a house in the Street of Abundance is like having the dead come back to life after being buried for eighteen hundred years.

The Street of Abundance of Pompeii has been for some four or five years past the most attractive spot in that ancient Roman town which was buried under the ashes from the eruption of Vesuvius in 79 A. D. Excavations along this street have held the best pay dirt—as it were—of any of the digs in Pompeii. A huge wooden gate shuts the tourists away from this street. It is quite possible to obtain a special pass by making application to the proper authority, though no cameras are allowed. The excavation has been done slowly and carefully on a specified plan. They dug the ashes out of the street first; now they are taking the houses one at a time and cleaning them out.

The most exciting moment of this century at Pompeii came a few months ago. The excavators dug the ashes out of the doorway of the house, Street of Abundance, No. 11, and started clearing away in the *atrium,* which was the reception room. Nothing much was found. Then they dug ahead into the next room, the *tablinum,* which was a sort of office of the man of the house. At the rear of the room a pilaster, on one side of the door leading back into the second atrium, stuck up above the ashes. As they dug away the ashes, suddenly just in front of the pilaster a magnificent bronze head came into sight. It was the head of a young man with almost Greek profile, with firm lips and with the most splendid head of wavy hair confined by a fillet band. The young man was looking slightly downward and to the right.

As awl and trowel took ahe place of pick and shovel, for the utmost care was being used, a splendid pair of broad bronze shoulders protruded from the gray-black Vesuvian ash. Soon the young man was uncovered to the knees, and stood unclothed in all his bronze beauty. He was clearly an *ephebus,* that is to say, a youth between eighteen and twenty on his preliminary military service due to the state.

By this time all Italy was in a ferment because the news had spread that a magnificent bronze statue, and best of all, an unbroken and unmutilated one, was rising from the dead past at Pompeii. Perhaps it would turn out to be an original of the best period from the atelier of a famous master!

Speculation was rife because of the position of the arms of the new bronze youth. His left arm hung easily at his side, except that the muscles of the upper arm seemed taut. The right forearm went straight out from the elbow, which was advanced a bit from the body, and the strangely closed right hand seemed to have held something. All sorts of guesses were made, but none of them was right. When the entire statue stood free, it was a nude bronze youth fifty-four inches high, standing easily with his weight on his straight right leg. Both feet were firmly planted on a circular bronze base.

In the ashes near the base of the statue were found two artistic pieces of bronze, alike except in the length of the stem pieces. From a bronze bud spread two bronze tendrils which looped gracefully away one to either side, each one curling under and over, with open flowers at the ends of the curls. On the tendrils of each bronze plant were three bronze holders.

The long stem and plant was placed in the hanging left hand of the bronze statue and the short one in his extended right hand, and lo! the transformation.

The beautiful bronze youth was a candelabrum, a "light bearer." What a magnificent and decorative way to light the tablinum of the master of this house, number 11 in the Street of Abundance!

Science News-Letter, October 22, 1927

GENERAL SCIENCE

Too Much To Do

If a man did every day all that the dentists say he ought to do to his teeth, all that the manicures say he ought to do to his hands, all that the barbers say he ought to do to his hair, all that the tailors say he ought to do to his clothes, all that the doctors say he ought to do to his food, all that physical instructors say he ought to do to his muscles, all that the professors say be ought to do to his mind, and all that the preachers say he ought to do to his soul, how could he get any time to himself?—*Edwin E. Slosson.*

Science News-Letter, October 22, 1927

The Problem of Translation—

¶Science, probing the unknown universe, writes its findings in cryptic language. A stellar galaxy shining faintly in the heavens hides its splendor and its immensity in numbers and formulæ; a minute germ has thrust upon it a long Latin name. With the aid of such scientific shorthand and such technicalities, science pushes on to new discoveries and new heights.

¶Yet the facts and the methods of science must penetrate and permeate the whole fabric of civilization if the world is to become an increasingly better place to live in. The man in the street, the woman in the home, the child in the school, the merchant in the counting house, the judge on the bench, the priest in the temple, all of those who make the world, must know, appreciate, understand and cherish the spirit of research and the power of thought.

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